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RESPONSE

A Report on Actions for A Better Environment

NO. 3

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UNITED STATES DEPARTMENT OF AGRICULTURE • OFFICE OF INFORMATION • WASHINGTON, D.C. 20250



RESPONSE is a periodic report from the United States Department of Agriculture on USDA's many areas of action to remedy environmental problems. Department programs protect and improve the environment through research, forestry, conservation and a wide range of rural and community services.

REGULATION OF FOREST MINING CONSIDERED

Diminishing access to the Nation's mineral wealth is resulting in greatly increased mining operations by private interests within the 104 million acres of National Forest lands. Such operations are permitted under the Mining Laws of 1872 which allow for prospecting, exploration, development, mining, and related processing operations in the National Forests. Currently adequate records are not kept of these operations. They may affect an estimated one percent of National Forest lands, and have a potential for significant adverse impact on environmental and other forest resources. Efforts are underway now to require anyone planning mining activity on National Forest lands to register their plan with Forest Service for review and suggested revision. If this procedure is initiated (hopefully this year) the government will be able to keep track of the number, size, and kind of private mining operations in National Forests. It may also help to insure that mining operators comply with applicable State and federal air quality, water quality and solid waste disposal standards.

COSTS OF CUTTING HERBICIDE USE ASSESSED

Use of the herbicide 2,4,5-T is under investigation by several Federal agencies including USDA, an investigation prompted by reports of possible health and environmental hazards. A recent and related study of costs involved in the possible transition from 2,4,5-T to other methods of brush and weed control indicates that banning it to farmers and other domestic users would cost them collectively \$52 million annually. If not only 2,4,5-T but all other alternative phenoxy herbicides were banned, costs to users could reach \$172 million annually. Single copies of "Restricting the Use of 2,4,5-T: Costs to Domestic Users," is available free upon request to RESPONSE. Study based on 1969 use-data.

WORLDWIDE
SEARCH FOR
SLOW-BURN
PLANTS

More than 200 species of plants from around the world are currently being tested by USDA conservationists and foresters for slow-burning qualities and adaptability for use in California. Slow-burning growth to carpet fuel breaks, heal fire-scarred watersheds, reduce fire hazards around urban developments and improve wildlife habitat is especially needed in dryland areas of that State where thousands of acres are ravaged yearly with high losses in lives, property and resources.

NEW INSTITUTE
STUDIES
FORESTS AND
ENVIRONMENT

The new Pinchot Institute of Environmental Forestry Research will pull together and give new emphasis to forestry research in the populous northeast. Administered by the Northeastern Forest Experiment Station in Upper Darby, Pa., it will provide grants for research at cooperating universities. Major focus will be on ways the forest can be used to improve man's environment without being damaged or destroyed in the process.

BIO-WEAPON
AGAINST
DUTCH ELM
DISEASE?

Since its discovery in this country in the early 1930s, Dutch elm disease has killed more than 12 million of our most favored urban shade tree, the American elm. And it continues to eliminate 400,000 American elms yearly. Now a team of scientists from the Forest Service Shade Tree Research Unit at Delaware, Ohio, and the State University College of Forestry at Syracuse University are working to isolate, identify and produce artificially a chemical sex attractant highly effective on the disease carrier, the elm bark beetle. An artificial substitute, they believe, can be used to reduce populations of the destructive beetles.

CONSERVATION
GOES URBAN

Soil and Water Conservation Districts and local governments in the Chicago area have formed a Natural Resource Service Center to keep a clean and green environment as suburbia spreads in northeastern Illinois. It provides technical services to planners, developers, public officials, groups of landowners and others in guiding suburban growth. In one project with the University of Illinois and Ford Foundation, the group is putting all data on every 40-acre parcel of land in 8 counties onto a computer. Called the Natural Resources Information System (NARIS), it could be fully operational by 1972, answering questions like: "What routes for a proposed highway will minimize ecological damage as well as engineering costs?"

RECENT PUBS

USDA publications of environmental value recently available-- (for the homeowner) "Soil Conservation at Home," AIB-244, suggests many erosion controls; "Soils and Septic Tanks," AIB-349, illustrates site selection; and "Water Supply Sources for the Farmstead and Rural Home," FB-2237, shows how to avoid contaminated water and other problems associated with farm water supplies; (for builders) "Controlling Erosion on Construction Sites," AIB-347, suggests methods and structures; (for editors) Picture Story 234, "After the Coal: Lush Grass," shows reclamation of strip mine area with grass. Single copies available upon request to RESPONSE.

CULTURAL
CONTROL
ELIMINATES
COSTLY BARLEY
DISEASE FROM
NORTH DAKOTA

The costly barley stripe mosaic virus (annual loss of \$3 million to North Dakota barley growers) has been eliminated from that State by cultural controls. Introduction of virus-free barley seed and a rapid and complete shift to its use by growers removed the source of BSMV, a plant disease transmitted by seed. This ends a struggle with the disease that began in 1954 when 97 percent of fields in the State were infected.

BIO-SAFE
FOAM
PROTECTS
PLANTS

A nontoxic, biodegradable foam that engulfs and protects tender young crops, keeping them 22° F warmer, may soon be helping truck farmers and gardeners to curb late spring freeze damage. The stable insulating foam lasts from 8 to 16 hours (overnight), dispersing in morning heat. When it becomes commercially available, it will cost from \$15 to \$30 per acre application, depending on the crop being protected.

FUNGICIDE
ABSORPTION BY
CITRUS CHECKED

Biphenyl, a fungistatic agent, is used to control citrus fruit decay. Since citrus absorbs it in slight quantities, allowable levels for absorption were established. Now Agricultural Research Service has documented the circumstances under which greater than allowable levels of this fungicide can penetrate the fruit. Test results, for instance, show that oranges may absorb three times the legal limit of biphenyl when stored at room temperature for six weeks or more. The report provides guidelines that will enable handlers to avoid high absorption conditions.

GUIDELINES FOR
ELECTRIC
TRANSMISSION

With demand for electric power doubling each decade, approximately 100,000 miles of new transmission lines must accompany each 10-year expansion of service. The joint USDA (Forest Service)-Interior booklet, "Environmental Criteria for Electric Transmission Systems," a recently issued 52-pager, is a planning guide for electric transmissions of today. Agencies of these departments will henceforth use it in planning and reviewing transmission projects. Other government agencies, electric utilities and private organizations are urged to adopt the criteria to assure adequate safeguards of the environment.

MAKE LAND A
WILD HAVEN

A new color slide series shows how landowners can create a haven for birds and other animals through conservation work. The 58 slides show wildlife in natural surroundings throughout the United States. The set (with narrative guide) may be purchased for \$9 from the Photography Division, Office of Information, U.S. Department of Agriculture, Washington, D.C. A filmstrip is available for \$6.50 from Photo Lab, Inc., 3825 Georgia Avenue, N.W., Washington, D.C. 20250.

UNDERGROUND
LINES

Currently about 10 percent of homes being connected to rural electric systems financed by Rural Electrification Administration are served through underground wires. Meanwhile, 94 percent of all new construction contracts by REA-financed telephone systems call for burying lines underground.

CO₂ BROWN
STAINS
LETTUCE

During enroute studies of a coast-to-coast rail shipment of lettuce, USDA scientists linked brown stain directly to the concentrations of carbon dioxide the lettuce encountered on the trip. Now additional work is underway to find methods of preventing damaging levels of CO₂ from accumulating in transit.

NEW SEASIDE
CONSERVATION
PLANT

The shore juniper (*Juniperus conferta*) grows well in full sun, is hardy, roots easily, is long lived, never grows more than a foot high, is salt tolerant, and fares well on sandy soils--all characteristics that make it especially useful in stabilizing soil and beautifying seaside and other sandy areas. Just released, after USDA field tests, to commercial growers for propagation, the shore juniper should soon be available to the public. Its origin--Japan--where new crops research scientists first noted its potential on a plant exploration trip through Far Eastern countries.

LEARNING
ECOLOGY
AT USDA

As of now more than 2,000 people in the Washington, D.C. area have expanded their knowledge of ecology and the relationships of man to his environment thanks to after-hours instruction by the USDA Graduate School. The school, long housed in USDA, is a non-government, non-profit institution of professional instruction. Its wide curriculum includes two dozen environmental courses, all part of a Natural History Field Studies program. Co-sponsoring these studies is The Audubon Naturalist Society of the Central Atlantic States.

A MONITOR FOR
WIDESPREAD
PLANT
DISEASES?

As a result of the devastating 1970 spread of Southern Corn Blight, new techniques may be developed for the monitoring of similar massive, spreading crop diseases, should they occur in the future. USDA cooperating with NASA, Purdue University, Michigan University and others is planning a ground-aerial sensing watch of 45,000 square miles in midwest corn belt States of Ohio, Illinois, Indiana, Missouri, Iowa, Minnesota, Michigan, and Nebraska. Ground survey would be conducted in 210 eight by one mile sites in this repetitively photographed (by high-altitude aircraft) area. The usefulness of this experiment in keeping tabs on and in helping control corn blight may be tested this year. Its potential for measuring other widespread plant problems is its primary value at present.